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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,649	09/24/2003	Kenneth P. Parker	10030186-1	6790

7590 03/08/2007
AGILENT TECHNOLOGIES, INC.
Intellectual Property Administration
Legal Department, DL429
P.O. Box 7599
Loveland, CO 80537-0599

EXAMINER

NORRIS, JEREMY C

ART UNIT	PAPER NUMBER
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2841

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/08/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/670,649

Applicant(s)

PARKER ET AL.

Examiner

Jeremy C. Norris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 1,2,5,6,10,11 and 14-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3,7,9 and 12 is/are rejected.
- 7) ☒ Claim(s) 4,8 and 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election of species (ii) of figures 7-10C, claims 3, 4, 7, 8, 9, 12, and 13 in the reply filed on 11 December 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Drawings

The drawings are objected to because the sectional views are not properly cross-hatched (see MPEP 608.02). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required

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corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 3 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by US 2001/0002728 A1 (Tsukada).

Tsukada discloses, referring primarily to figure 1, a test access point structure on a printed circuit board, comprising: a trace (3) printed along an x-y plane in an x-, y-, z-coordinate system of a dielectric, said trace generally characterized by a trace thickness along a z axis perpendicular to an x-y plane of said dielectric; a test access point structure (5) conductively connected to said trace at a test access point, said test

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access point structure projecting along a z axis in an x-, y-, z-coordinate system above an exposed surface of said printed circuit board to be accessible for electrical probing by an external device ([0036]) [claim 3], further comprising: a solder mask (4) layered over said trace, said solder mask having a hole exposing said test access point structure, wherein said test access point structure projects along said z axis of said x-, y-, z-coordinate system above an exposed surface of said solder mask on said printed circuit board to be accessible for electrical probing by said external device ([0036]) [claim 9].

Claims 3 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,680,056 (Ito).

Ito discloses, referring primarily to figure 14, a test access point structure on a printed circuit board, comprising: a trace printed along an x-y plane in an x-, y-, z-coordinate system of a dielectric, said trace generally characterized by a trace thickness along a z axis perpendicular to an x-y plane of said dielectric; a test access point structure (i) conductively connected to said trace at a test access point, said test access point structure projecting along a z axis in an x-, y-, z-coordinate system above an exposed surface of said printed circuit board to be accessible for electrical probing by an external device (P1) [claim 3], wherein said test access point is formed integral to said trace and characterized by an increase in thickness at said test access point [claim 7].

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 9 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ito in view of Tsukada.

Regarding claim 9, Ito discloses the claimed invention as described above except Ito does not specifically disclose a solder mask layered over said trace, said solder mask having a hole exposing said test access point structure, wherein said test access point structure projects along said z axis of said x-, y-, z-coordinate system above an exposed surface of said solder mask on said printed circuit board to be accessible for electrical probing by said external device [claim 9]. However, it is well known in the art to cover traces with a solder mask, exposing test structures via openings in said mask as evidenced by Tsukada (figure 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to provide a solder mask with openings exposing the test pads in the invention of Ito as is known in the art and evidenced by Tsukada. The motivation for doing so would have been to insulate the trace from unwanted electrical connections while still providing the opportunity for testing. Additionally, the modified invention of Ito teaches, wherein said test access point is formed integral to said trace and characterized by an increase in thickness at said test access point [claim 12].

Allowable Subject Matter

Claims 4, 8, and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Claim 4 states the limitation "wherein said trace is characterized by a substantially constant trace width leading up to said test access point and a narrower

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trace width that is narrower than said substantially constant trace width at said test access point". This limitation, in conjunction with the other claimed features, was neither found to be disclosed in, nor suggested by, the prior art. Claim 8 states the limitation "wherein said trace is characterized by a substantially constant trace width leading up to said test access point and a narrower trace width that is narrower than said substantially constant trace width at said test access point". This limitation, in conjunction with the other claimed features, was neither found to be disclosed in, nor suggested by, the prior art. Claim 13 states the limitation "wherein said trace is characterized by a substantially constant trace width leading up to said test access point and a narrower trace width that is narrower than said substantially constant trace width at said test access point". This limitation, in conjunction with the other claimed features, was neither found to be disclosed in, nor suggested by, the prior art.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following documents disclose test access points:

US 5,416,274 Ushiyama et al.,

US 6,686,758 B1 Farnworth et al.,

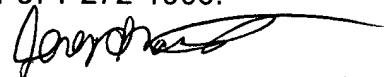
US 2004/0150388 A1 Cheng et al..

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeremy C. Norris whose telephone number is 571-272-1932. The examiner can normally be reached on Monday - Friday, 9:30 am - 5:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 571-272-1984. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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Art Unit 2841

JCSN